

What is claimed is:

1. A method of driving a display panel made up of ($n \times m$) pieces of display elements each disposed at respective crossover points of a matrix, formed of n rows of scanning lines and m columns of data lines, said method comprising the step of variably controlling a constant current value for driving the respective data lines.

2. The method of driving a display panel according to claim 1, wherein the step of variably controlling the constant current value is implemented by comparing a voltage of the respective data lines with a reference voltage.

3. The method of driving a display panel according to claim 1, wherein the step of variably controlling the constant current value is implemented by making an assumption on a current correction value for each of the data lines in a succeeding display period during a display period of present display data.

4. The method of driving a display panel according to claim 3, wherein if a cathode of the respective display elements is connected to the respective scanning lines, and a node thereof is connected to the respective data lines, the assumption on the current correction value for a data line positioned at an m -th bit is made on the basis of a value A found by $A = m * d - \beta$, using the number d of display elements in the present display data, and a constant β determined by the m .

5. The method of driving a display panel according to claim 4, wherein the assumption on the basis of the value A is made by finding a voltage V of a data line corresponding to the m-th bit of a cathodic line, in a succeeding display period, from $V = \alpha * A$ where α is a constant.

6. The method of driving a display panel according to claim 1, wherein the display elements are organic EL elements.

7. A drive of a display panel for driving (n x m) pieces of display elements each disposed at respective crossover points of a matrix, formed of n rows of scanning lines and m columns of data lines, having an anode thereof, connected to the respective data lines and a cathode thereof, connected to the respective scanning lines, said drive comprising:

first switching means for changing over between connection of the respective data lines to the side of respective variable current sources and connection thereof to a grounding side;

second switching means for changing over a potential of the respective scanning lines between a power supply potential and a grounding potential;

driving means for controlling the first switching means and second switching means correspondingly to input data;

comparison means provided in each of the data lines, for outputting a control signal by comparing a reference voltage from reference voltage generation means with a potential of the respective data lines, and

current control means for controlling a current of the variable current source provided in each of the data lines based on results of comparison executed by the respective comparison means.

8. The drive of a display panel according to claim 7, wherein the comparison means detect a decrease in current of the respective variable current sources on the basis of an increase in potential of the respective data lines to thereby control so as to increase the current of the respective variable current sources, and detect an increase in the current of the respective variable current sources on the basis of a drop in the potential of the respective data lines to thereby control so as to decrease the current of the respective variable current sources.

9. A drive of a display panel for driving (n x m) pieces of display elements each disposed at respective crossover points of a matrix, formed of n rows of scanning lines and m columns of data lines, having an anode thereof, connected to the respective data lines and a cathode thereof, connected to the respective scanning lines, said drive comprising:

first switching means for changing over between connection of the respective data lines to the side of respective variable current sources and connection thereof to a grounding side;

second switching means for changing over a potential of the respective scanning lines between a power supply potential and a grounding potential;

driving means for controlling the first switching means and second switching means correspondingly to input data;

detection means for detecting the number of the display elements for each of the scanning lines in a succeeding display period on the basis of the input data;

assumption means for assuming a voltage of the data line for each of the data lines on the basis of the input data and the number of the display elements; and

current correction means for correcting a current value of the respective variable current sources on the basis of results of respective comparison means for comparing the voltage of the respective data lines as assumed with a predetermined reference voltage.

10. The drive of a display panel according to claim 9, wherein the predetermined reference voltage and the comparison means are provided in plural numbers, a plurality of comparison signals from the comparison means are delivered in response to the voltage of the respective data lines, and the current value of the respective variable current sources is controlled on the basis of the plurality of the comparison signals.

11. The drive of a display panel according to claim 7, wherein the display elements are organic EL elements.

12. A drive of a display panel for driving ($n \times m$) pieces of display elements each disposed at respective crossover points of a matrix, formed of n

rows of scanning lines and m columns of data lines, having an anode thereof, connected to the respective data lines and a cathode thereof, connected to the respective scanning lines, said drive comprising:

first switching means for changing over between connection of the respective data lines to the side of respective variable current sources and connection thereof to a grounding side;

second switching means for changing over a potential of the respective scanning lines between a power supply potential and a grounding potential;

a drive control circuit for controlling the first switching means and second switching means correspondingly to input data;

a comparator provided in each of the data lines for outputting a control signal by comparing a reference voltage from a voltage regulator with a potential of the respective data lines; and

a current control circuit for controlling a current of the variable current source provided in each of the data lines on the basis of results of comparison by the respective comparators.

13. The drive of a display panel according to claim 12, wherein the comparator detects a decrease in the current of the respective variable current sources on the basis of an increase in the potential of the respective data lines to thereby control so as to increase the current of the relevant variable current source, and the comparator detects an increase in the

current of the variable current sources on the basis of a drop in the potential of the respective data lines to thereby control so as to decrease the current of the relevant variable current source.

14. A drive of a display panel for driving ($n \times m$) pieces of display elements each disposed at respective crossover points of a matrix, formed of n rows of scanning lines and m columns of data lines, having an anode thereof, connected to the respective data lines and a cathode thereof, connected to the respective scanning lines, said drive comprising:

first switching means for changing over between connection of the respective data lines to the side of respective variable current sources and connection thereof to a grounding side;

second switching means for changing over a potential of the respective scanning lines between a power supply potential and a grounding potential;

a drive control circuit for controlling the first switching means and second switching means correspondingly to input data;

a light-emitting bit number detection circuit for detecting the number of the display elements for each of the scanning lines, in a succeeding display period on the basis of the input data;

a VO detection circuit for assuming a voltage of the data line, for each of the data lines, in the succeeding display period on the basis of the input data and the number of the display elements; and

a current correction circuit for correcting a current value of the respective variable current sources on the basis of results of a digital comparator for comparing the voltage of the respective data lines as assumed with a predetermined reference voltage.

15. The drive of a display panel according to claim 14, wherein the predetermined reference voltage and the digital comparator are provided in plural numbers, respectively, a plurality of comparison signals from the digital comparators are delivered correspondingly to the voltage of the respective data lines, and the current value of the respective variable current sources is controlled on the basis of the plurality of the comparison signals.